IN THE CLAIMS

1. (Currently amended) Metallurgical vessel for iron and steel making comprising a bottom portion, a sidewall and a lance arrangement of at least ~~two~~ three lances for supplying oxygen containing gas to the interior of the vessel in operation,

wherein each lance comprises an end portion for emitting oxygen containing gas,

wherein the lance arrangement ~~is configured so as to achieve~~ comprises said at least three lances, the lances projecting into the upper portion of the vessel,

wherein at least one of the lances is provided with means for emitting a plurality of jets of oxygen containing gas from its end portion,

wherein at least one lance is arranged for directing the oxygen containing gas towards a central axis of the metallurgical vessel,

said lance arrangement for achieving in operation a substantially downwardly directed flow of post-combusted gases at the side wall of the vessel and a substantially upwardly directed flow of post- combusted gases in the centre of the vessel.

2. (Cancelled)

3. (Previously presented) Metallurgical vessel according to claim 1, wherein at least one of the lances projects through a roof portion of the metallurgical vessel.

4. (Cancelled)

5. (Currently amended) Metallurgical vessel according to claim [[4]] 3, wherein at least one of the lances is inclined from the vertical under a first acute angle with its end portion inclined towards the central axis of the metallurgical vessel.

6. (Currently amended) Metallurgical vessel according to claim 5, wherein the end portion of the lance is configured to direct the oxygen containing gas towards the central axis of the metallurgical vessel under a second acute angle from the vertical which second acute angle is greater than the first acute angle.

7. (Previously presented) Metallurgical vessel according to claim 1, wherein the end portions of the lances are all of equal distance from the sidewall.

8. (Currently amended) Metallurgical vessel according to claim 1, wherein at least one of the ~~metallurgical vessel comprises three or more~~ lances is adjustable in height.

9. (Previously presented) Metallurgical vessel according to claim 1, wherein through at least one feed chute, particulate material is added to the vessel in the substantially downwardly directed flow of post-combusted gases.

10. (Previously presented) Metallurgical vessel according to claim 9, wherein a plurality of feed chutes project through a roof portion of the metallurgical vessel.

11. (Previously presented) Metallurgical vessel according to claim 9, wherein each lance has a corresponding feed chute.

12. (Previously presented) Metallurgical vessel according to claim 11, wherein each feed chute is positioned between the lance and the sidewall of the metallurgical vessel in a radial direction.

13. (Previously presented) Metallurgical vessel according to claim 1, wherein the sidewall comprises

a lower portion for accommodating a molten metal bath and a slag layer and

an upper portion for accommodating a slag layer and

wherein the at least two lances for supplying oxygen containing gas to the upper portion of the vessel project into the upper portion of the vessel and

wherein a plurality of tuyeres for supplying gas and/or liquid and/or solids and/or plasma into the slag layer in the lower portion of the vessel are arranged around the circumference of the lower portion of the vessel.

14. (Previously presented) Metallurgical vessel according to claim 13, wherein the diameter of the lower portion of the vessel is smaller than that of the upper portion.

15. (Previously presented) Metallurgical vessel according to claim 13, wherein the tuyeres comprise oxy-fuel burners.

16. (Previously presented) Metallurgical vessel according to claim 1, comprising a melting cyclone positioned above and in open connection with the metallurgical vessel.

17. (Previously presented) Metallurgical vessel according to claim 16, wherein the lances are positioned to avoid contact with molten material passing downwards from the melting cyclone to the metallurgical vessel.

18. (Withdrawn) Method of reducing iron oxides into iron using a metallurgical vessel in accordance with claim 1, comprising the steps of supplying iron oxides to the vessel and reducing the iron oxides by supplying carbonaceous material to the vessel and supplying oxygen containing gas to the iron oxides via the lances.

19. (Withdrawn) Method of reducing iron oxide to iron using a metallurgical vessel in accordance with claim 1, comprising the steps of supplying iron oxide to the vessel, supplying oxygen containing gas to the upper portion of the metallurgical vessel via the lances, supplying carbonaceous material to the iron oxide and supplying gas and/or

liquid and/or solids and/or plasma into the slag layer in the lower portion of the vessel via the plurality of tuyeres.

20. (Withdrawn) Method of reducing iron oxide according to claim 19, wherein the tuyeres comprise oxy fuel burners acting as a direct heat source in the slag layer in the lower portion of the metallurgical vessel.

21. (Withdrawn) Method of iron making using a metallurgical vessel in accordance with claim 1, comprising the steps of:

- conveying iron oxide or pre-reduced iron oxide into the metallurgical vessel
- supplying oxygen containing gas to the metallurgical vessel via a lance arrangement of at least two lances configured so as to achieve in operation a substantially downwardly directed flow of post-combusted gases at the side wall of the vessel and a substantially upwardly directed flow of post-combusted gases in the centre of the vessel,
- supplying carbonaceous material to the vessel.

22. (Withdrawn) Method according to claim 21, comprising the steps of:

- conveying iron-oxide containing material into a melting cyclone,
- pre-reducing said iron-oxide containing material by means of reducing post combusted gases originating from the metallurgical vessel,
- at least partly melting the iron-oxide containing material in the melting cyclone by supplying oxygen containing gas to the melting cyclone and effecting a further post combustion in said reducing post combusted gases,
- permitting the pre-reduced and at least partly melted iron-oxide containing material to pass downwardly from said melting cyclone into the metallurgical vessel in which final reduction takes place, and
- effecting the final reduction in the metallurgical vessel in a slag layer by supplying oxygen containing gas to the metallurgical vessel, via the lances, and supplying coal to the metallurgical vessel and thereby forming a reducing gas and effecting at least partial post combustion in said reducing gas in said metallurgical vessel by means of said oxygen containing gas supplied thereto.

23. (Withdrawn) Method of iron making according to claim 21, comprising the step of:

- supplying through tuyeres gas and/or liquid and/or solids and/or plasma into a slag layer in a lower portion of the vessel.